



DESIGN 150

PR-1150

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

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Please note that as part of our ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of this manual we reserve the right to change specifications in the course of product improvement. The publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from them.

Every apparatus is tested completely and packed properly by the manufacturer. Please make sure the packing and / or the apparatus is in good condition before your installation and use. Should there be any damage caused by transportation, consult your dealer and do not use the apparatus. But any damage caused by improper use will not be assumed by the manufacturer and / or dealer.

ACCESSORIES

THESE ITEMS ARE PACKED TOGETHER WITH THE PROJECTOR

- Water proof 3-pin XLR plug (1 PCS)
- Water proof 3-pin XLR socket (1 PCS)
- Safety cord (1 PCS)
- Barndoors (1 SET) (including 4 copper screws and 4 rubber washers, 4 screws and 4 flat washers)
- This manual (1 PCS)
- Optional: louvres (1 SET)

INTRODUCTION

Thank you for purchasing our product Design 150, PR-1150.

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

The Design 150 is a projector of innovative, compact, silent colour changing, capable of extraordinary performances in terms of colour mixing, reliability and versatility. The projector can be used in numerous environments and for the most various applications. The product complies to CE norms and standards and uses international protocol DMX 512. Design 150 can be used as a stand-alone unit or linked to a controller. The Design 150 are particularly suitable for television studios and theatres, stage lighting, limelights, backdrops, inside or outside shops and shopping centres, sport and other cultural applications, and so on.

The Design 150 features 3 kinds of colour filters for CYM colour mixing and 2 blades for shutter/open. It can be setup easily with the touch-switches and a digital display screen.

SAFE USAGE OF THE PROJECTOR

When unpacking and before disposing of the carton check there is no transportation damage before using the projector. Keep the carton well for future possible transportation. Should there be any damage caused by transportation, consult your dealer and do not use the apparatus.

The projector is suitable for indoor or outdoor use and is splash-proofed, IP65.

The projector is not designed or intended to be mounted directly on to inflammable surfaces.



The projector is only intended for installation, operation and maintenance by qualified personnel.

The projector must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.

Do not project the beam onto inflammable surfaces, minimum distance is 3m.  3m 

Hot housing surface! Do not touch the housing of the projector with your hand during operation. 

Avoid direct exposure to the light from the lamp. The light is harmful to the eye.

Do not attempt to dismantle and/or modify the projector in any way.

Electrical connection must only be carried out by qualified personnel.

Before installation, ensure that the voltage and frequency of power supply match the power requirements of the projector.

It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards.

Do not connect this device to any dimmer pack.

Make sure that the power-cord is never crimped or damaged by sharp edges. Never let the power-cord come into contact with other cables. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

Keep the lamp clean. Do not touch the lamp glass with bare hand.

The projector should always be installed with a secondary safety fixing. A safety cord is supplied for this, it should be attached as shown in "installing the projector" section.

The lamp used in this projector is an 150W discharge lamp. After being switched off don't attempt to restart the projector until lamp has cooled, this will require approx 15 minutes. Switching the lamp on and off at short intervals will reduce the life of both the lamp and the projector. But occasional breaks will prolong the life of the lamp and projector.

Never run the projector without a lamp.

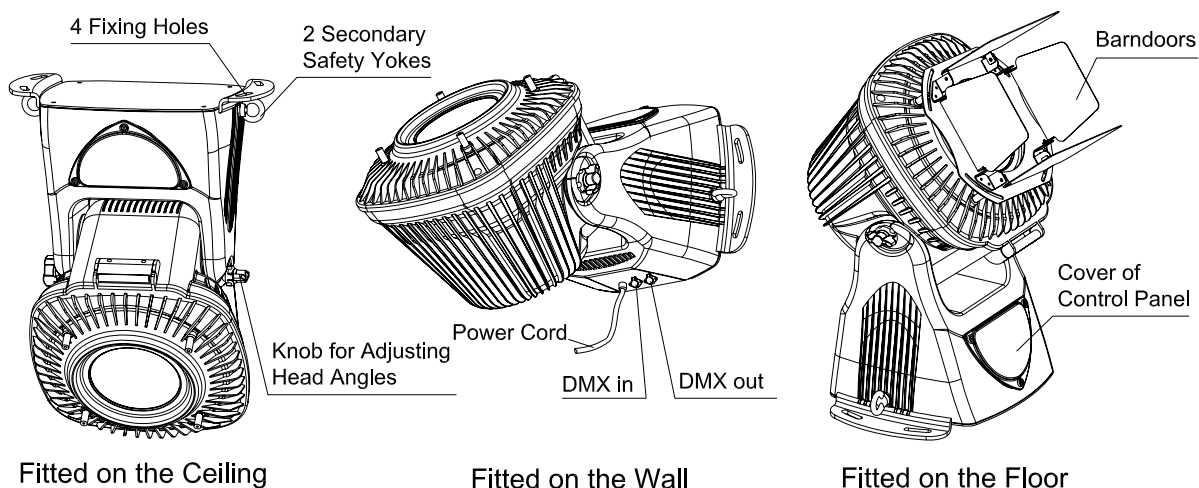
There are no user serviceable parts inside the projector, do not open the housing and never operate the projector with the covers removed.

Always disconnect from the mains, when the device is not in use or before cleaning it or before attempting any maintenance work.

NOTE: PLEASE REMOVE THE SPONGE EFFECT LOCKING CYLINDER INSIDE THE PROJECTOR BEFORE YOUR FIRST OPERATION!

(How to open the access cover please refer to "fitting the lamp" section)

INSTALLING THE PROJECTOR

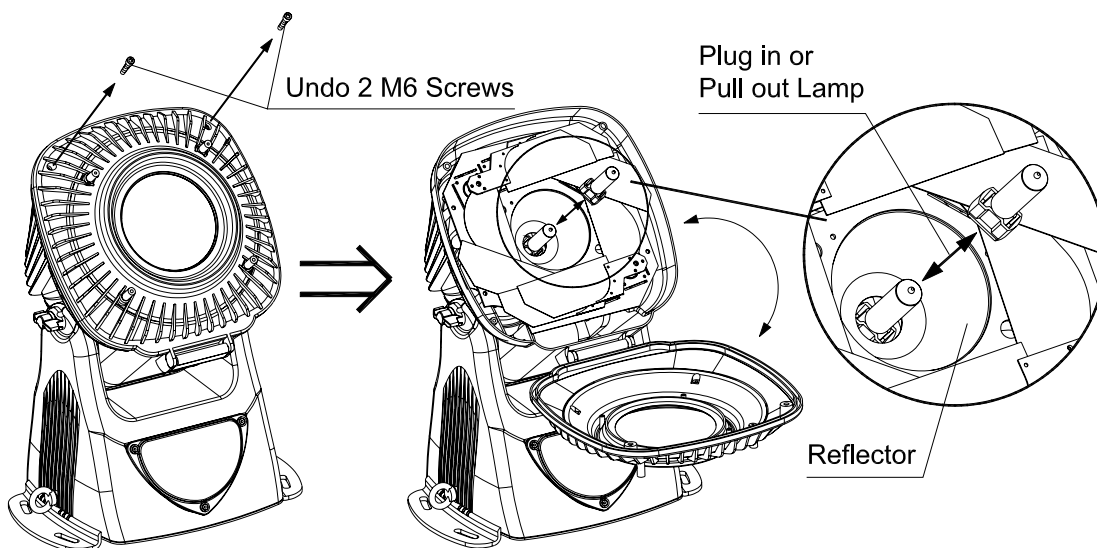


The unit was designed to make installation easy: it can be fitted on a floor, wall or ceiling as required and will operate in any working position, as the head can be rotated through 90°.

Always ensure that the projector is firmly anchored to avoid vibration and slipping whilst functioning. Always ensure that the structure to which you are attaching the projector is secure and is able to support a weight of 17.6Kg for each Design 150. For safety the projector should have a secondary fixing with a safety chain through the 2 secondary safety yokes on the both sides of the unit.

Note: For installing the barndoors, first install the 4 copper screws and sealing rubber washers in the unit head, and then place the barndoors on the 4 copper screws and fasten them with 4 screws and flat washes.

FITTING THE LAMP



Loosen the 2 M6 screws and then open the head cover as shown in the figure above.

Appear the lamp holder by letting the colour filters and blades aside from the center.

Plug the lamp into the lamp holder. **Note:** To avoid premature lamp failure, do not touch the lamp glass with your fingers. If you touch the lamp during installation, clean it carefully with rubbing alcohol and a clean, lint-free cloth before operation.

Close the cover and then tighten the 2 M6 screws.

NOTE: The HSD series are high pressure lamps with external igniters (⚠). Care should always be taken when handling these lamps. Always read the manufacturers "Instructions for use" enclosed with the lamp.

POWER CONNECTIONS

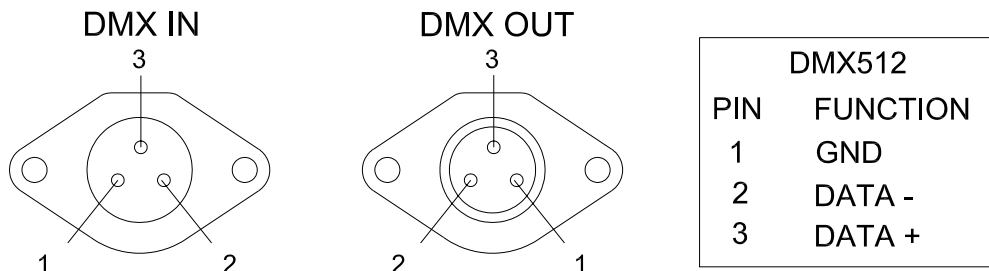
The unit is supplied with a power cord. Should any other connections be required they must be carried out with the following configuration.

Earth = Green/Yellow cord

Neutral = Blue cord

Live = Brown cord

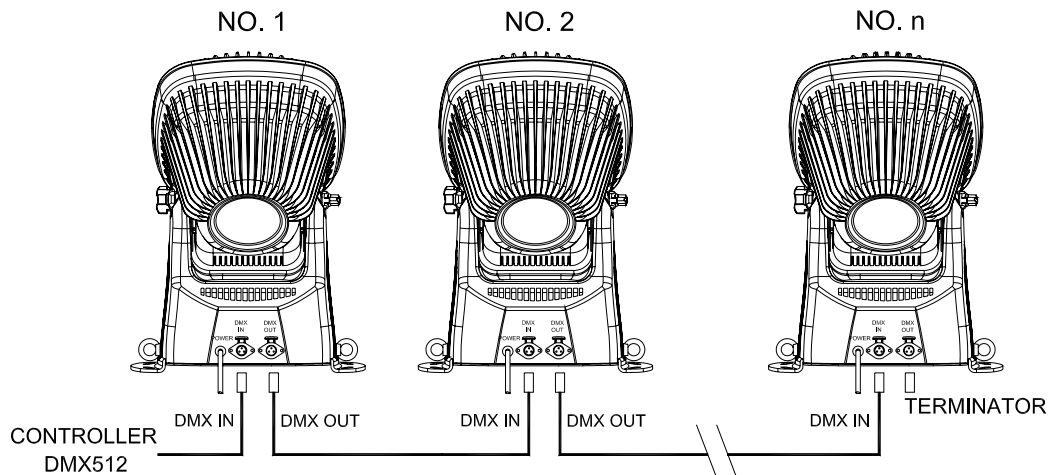
CONTROL CONNECTIONS



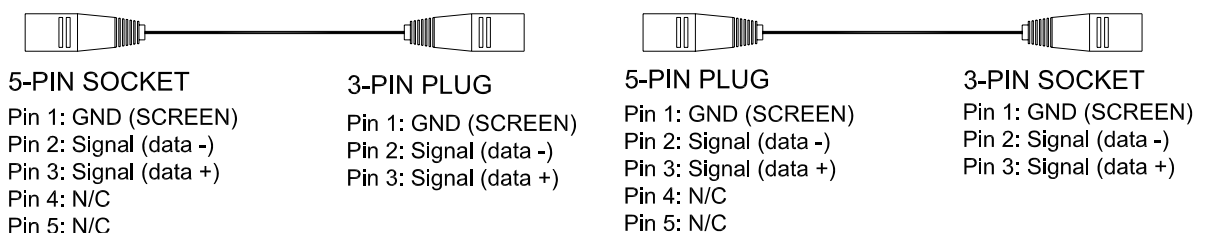
Connection between controller and projector and between one projector and another must be made with 2 core screened cable, with each core having at least a 0.5mm diameter. Connection to and from the projector is via cannon 3 pin XLR plugs and sockets which are included with the projector. The XLR's are connected as shown in the figure above.

Note, care should be taken to ensure that none of the connections touch the body of the plug or each other. The body of the plug is not connected in any way. The Design 150 accepts digital control signals in standard DMX512 (1990) format.

Connect the controller's output to the first fixture's input, and connect the first fixture's output to the second fixture's input. The rest may be deduced by analogy. Eventually connect the last fixture's output to a DMX terminator as shown in the figure below

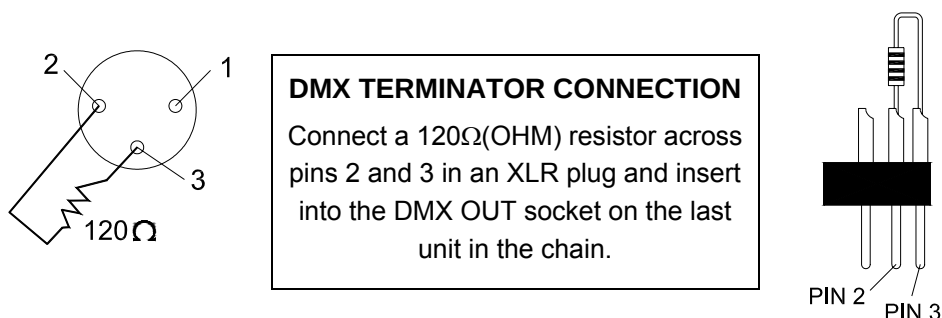


Design 150 uses 3-pin XLR plug / socket. If your controller uses 5-pin XLR plug / socket, you should convert 5-pin plug / socket into 3-pin socket / plug as shown below.



DMX TERMINATOR

In the Controller mode, the DMX output has to be connected with a DMX terminator at the last fixture in the chain. This prevents electrical noise from disturbing and corrupting the DMX control signals. The DMX terminator is simply an XLR connector with a 120Ω (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.



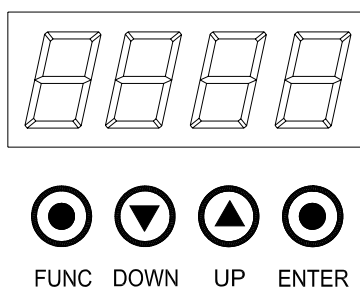
DMX CONTROL CHANNEL FUNCTIONS

The Design 150 uses 6 DMX channels. They are listed in the following table.

CHANNEL	DMX VALUE	DESCRIPTION
1	0-255	From black to full open in linear
2	0-1	Open/Clear
	2-255	Mix CYM colours from slow to fast
3	0-255	Cyan enters gradually
4	0-255	Magenta enters gradually
5	0-255	Yellow enters gradually
6	0-255	Control motor speeds of cyan, yellow and magenta from fast to slow

PROJECTOR DMX START ADDRESS

Each Design 150 must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to “listen” to the digital control information being sent out from the controller. The Design 150 has 6 channels, so set the No.1 projector’s address 001, No.2 projector’s address 007, No.3 projector’s address 013, No.4 projector’s address 019, and so on.



TO SET THE DMX START ADDRESS

Press **UP** or **DOWN** button to select **8888** (address setting), and then press **ENTER** button. You will see the **8** flashing, then press **UP** or **DOWN** button to get the desired address value. At last, press **ENTER** button to save and then press **FUNC** button to come back **8888** (address setting).

SETUP OPTIONS - PROJECTOR CONFIGURATION

After the projector is switched on, the projector will reset automatically and then the display will show the DMX start address (if you have already set the DMX start address and saved it, the screen will display the last setting).

To set or browse through the various Setup Options, press the **UP** or **DOWN** button.

Press **ENTER** button to save your modification or enter sub-option. Press the **UP** or **DOWN** button to modificate the setting values.

Press **FUNC** button to exit current option and to return to pre-option.

For example, if you want to set digit display brightness 100%, you should press **UP** or **DOWN** button to select **d1nt** (digit display brightness). Press **ENTER** button to enter value setting (sub-option), press **UP** or **DOWN** button to get **100** (100%), then press **ENTER** button to save and press **FUNC** button to return to **d1nt**. So you successfully set the digit display brightness 100%.

SETUP OPTIONS TABLE

d1nt Digit Display Lightness Adjustment

025	25%
050	50%
075	75%
100	100%

LAE1 Time Display for Lamp Working

0001 Example: 1 Hour

PdE1 Time Display for Unit Working

0001 Example: 1 Hour

dEND Self-Test

Run

AA00 Manual Operation

0000	(0-255) Dimming: open gradually from black-out to open
0001	(0-255) Colours Mixing: from slow to fast
0Y00	(0-255) Cyan
0M00	(0-255) Magenta
0Y00	(0-255) Yellow
0000	(0-255) Cyan, Yellow and Magenta mixing from fast to slow

SELF Not Used

0000

0001 Address Setting

STAND-ALONE MODE

Press the **UP** or **DOWN** button to select **HEND** (self test), and then press **ENTER** button to confirm it. The projector will run in stand-alone mode automatically under programmes have been set.

MAINTENANCE

If the projector's lens becomes damaged or broken it should be replaced. If the lamp becomes damaged or deformed in any way it must be replaced. If the light from the lamp appears dim this would normally indicate that it is reaching the end of its life and it should be changed at once, old lamps run to the extremity of their life can explode. If the projector does not function, check the power fuse inside the projector, it should only be replaced by fuse with the same specified value 6.3A/250V (fast blow, 5mmx20mm). On the main PCB inside the projector there is also 2 fuses rated 6.3A/250V and 4A/250V (fast blow, 5mmx20mm) respectively. **When change the fuses, please undo the 4 M6 screws on the base of the projector and then open the base cover.** Should these be damaged call a qualified technician before replacement. The projector has thermal protection device that will switch off the projector in case of overheating.

Any maintenance work should only be carried out by qualified technicians.

KEEPING THE PROJECTOR CLEAN

To ensure the reliability of the projector it should be kept clean. The lens and dichroic colour filters should also be regularly cleaned to maintain an optimum light output. **Do NOT use any type of solvent on dichroic colour filters.**

Cleaning frequency depends on the environment in which the fixture operates: damp, smoke or particularly dirty surroundings can cause greater accumulation of dirt on the unit's optics. A soft cloth and typical glass cleaning products should be used in cleaning. It is recommended to clean the external optics at least once every 20 days and clean the internal optics at least once every 30 / 60 days.

Do not use any organic solvent, e.g. alcohol, to clean the reflector, colour filters or housing of the apparatus.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION
The projector doesn't switch on	-The power supply is not present -The lamp is not working	Check the fuse on the power socket. Replace the lamp.
The lamp comes on but the projector doesn't respond to the controller	-Wrong DMX configuration and/or start address - Defective DMX cable	Make sure that the projector is correctly configured. Replace or repair the DMX cable.
The beam appears dim	-Dust or grease contamination on the optics. -The lamp is at the end of its life	Check the optics are clean. Replace with a new lamp of the specified type and rating.

TECHNICAL DATA

VOLTAGES: 100/120/200/220/230/240V AC, 50Hz or 60Hz To Order.

POWER CONSUMPTION:

200W @ 220V

LAMP: Type : HSD150/70 discharge lamp.

Colour Temperature: 7000°K

Socket: G12

Manufacturers Rated Lamp Life: 2000 Hours

COLOURS:

CYM colour mixing

With crossfade effect at various speeds

SHUTTER:

2 Blades for shutter

HEAD MOVEMENT:

90° (manual adjustment)

BEAM ANGLE:

21°

CONTROL:

DMX512: 6 Channels

Stand-Alone Automatic mode

Lamp and Unit time indication

MOTORS:

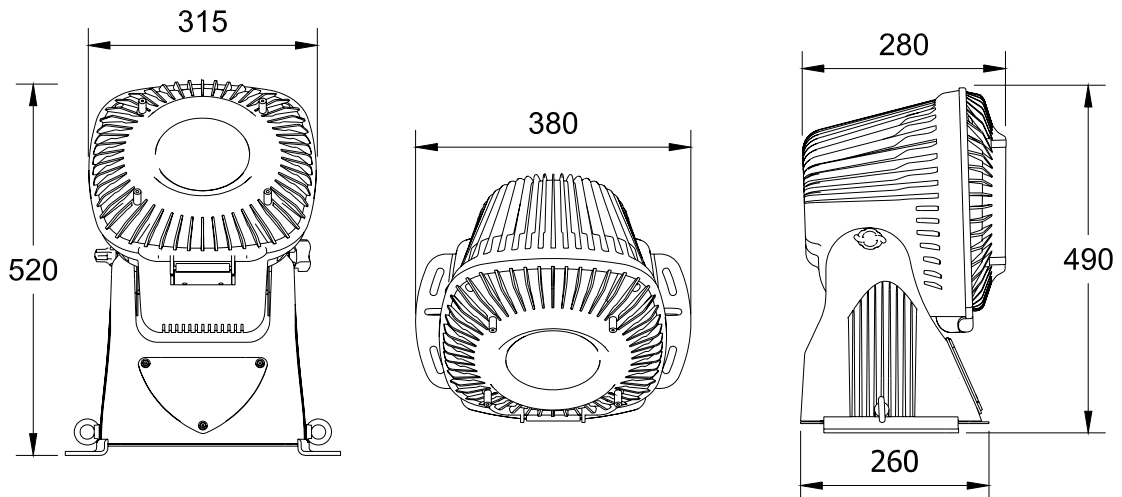
8 Stepper motors

HOUSING:

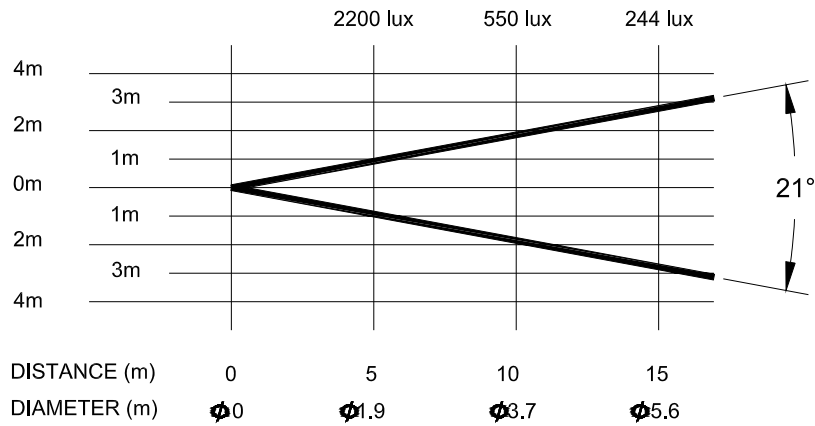
Cast aluminium with paint finish (IP65)

WEIGHT:

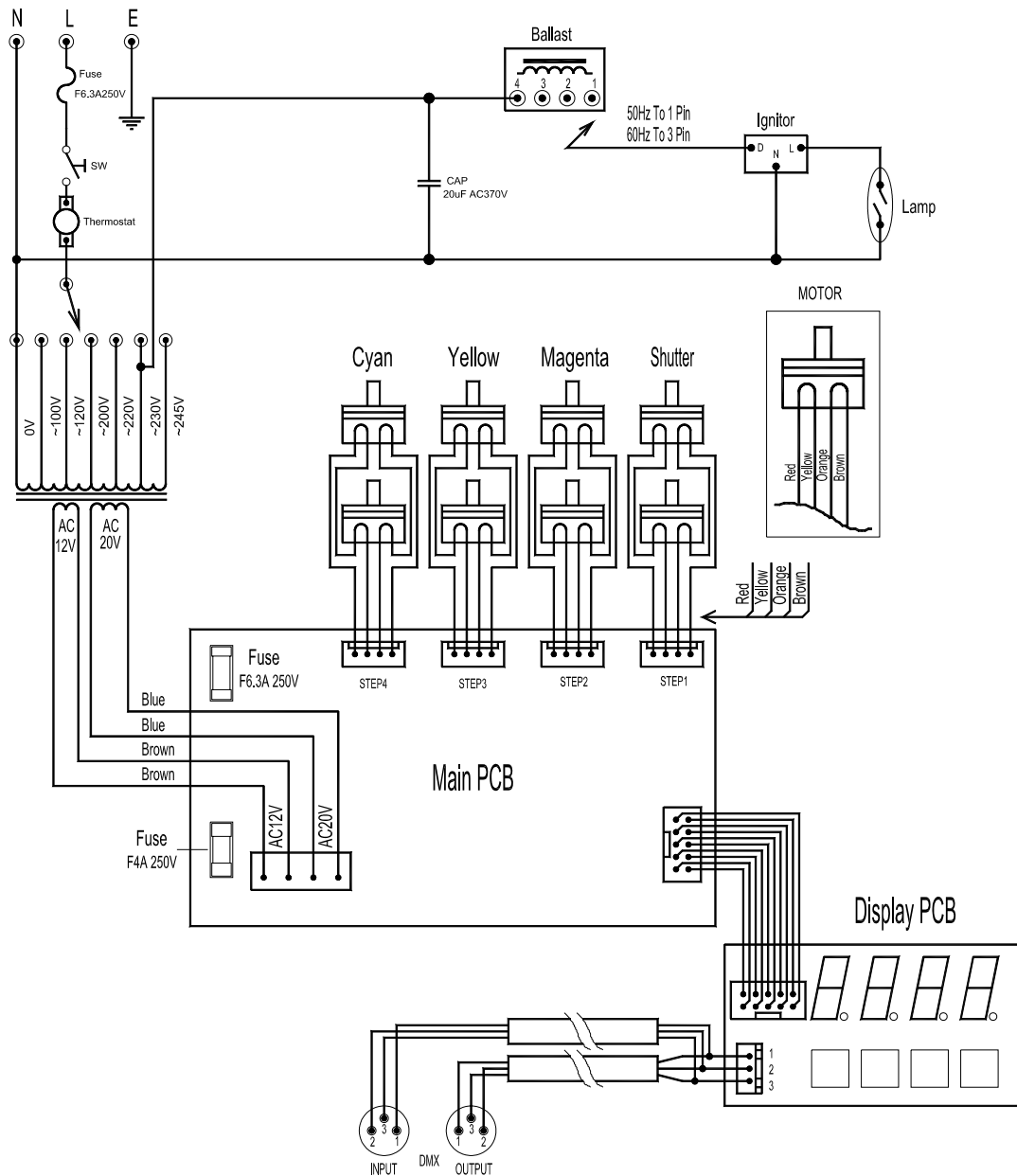
17.6Kg.



LIGHT OUTPUT



ELECTRICAL DIAGRAM



COMPONENT ORDER CODES

NAME	PART NO.	REMARK
TRANSFORMER	040030038	
THERMOSTAT	190010054	95°C/10A/250V
CAPACITOR	140010011	20µF AC 370V
BALLAST	040070022	150W 1.8A
IGNITOR	040090016	230V/50-60Hz
LAMP	100050037	HSD 150/70
(CYAN AND YELLOW) MOTOR	030040078	17HS0001-02KML Ø5X25X11.3
(MAGENTA AND SHUTTER) MOTOR	030040077	17HS0001-02KML Ø5X12X11.3

NOTE: You may order all parts of the Design 150 besides the table listed above. When ordering please state the exact name and part no.. Repairs must be carried out by a qualified technician.

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